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ABSTRACT

The structure of the revised Client Needs Assessment Instrument (CNAI) is examined. In 1978-79, the Texas Department of Human Resources (DHR) developed the CNAI to provide an index of applicants' and clients' capacity for self-care by measuring the respondents' levels of functioning in: (1) physical health; (2) daily living activities; (3) mental health; and (4) social resources. It is used to establish eligibility of first-time clients and continued eligibility of clients for services in the DHR's community care programs. L. Guttman's facet theory, based on set theory, was the theoretical basis for the investigation of the instrument's structure. A shortened 20-item version of the CNAI, revised in 1984, was tested with 4,189 clients (aged 20 to 99 years). Correlation matrices were submitted to Smallest Space Analysis (SSA) to determine the structure of the CNAI. The functional modality facet was expected to play a polar role, partitioning the SSA space into wedge-shaped regions emanating from a common origin. Two-dimensional SSA configurations adequately portrayed the structure of the correlation matrices for the entire population of DHR clients and for clients from two special services, supporting the structure hypothesized for CNAI. This means that CNAI items represent functional behaviors that differ in type rather than degree and that, because these behaviors are unordered, the lack of functional ability in any area does not indicate inability to function in other areas. Four tables and two figures support the study. (SLD)

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FACET ANALYSIS OF THE CLIENT NEEDS ASSESSMENT INSTRUMENT*

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During 1978-1979, the Texas Department of Human Resources (DHR) developed the Client Needs Assessment Instrument (Form 2060). The instrument was intended to provide an index of applicants' and clients' capacity for self-care by measuring respondents' level of functioning in four major areas referred to as physical health, activities of daily living, mental health, and social resources. The instrument contained forty items and was used to establish the initial eligibility of first-time applicants and the continued eligibility of clients for services in the community care programs sponsored by DHR's Office of Services to Aged and Disabled. The desire to shorten this instrument and the need to better measure specified client populations in accordance with new operational policies governing eligibility for assistance from its programs motivated DHR's Office of Research, Demonstration, and Evaluation to undertake the task of revising the instrument. The product of these efforts is a twenty-item measure, the revised Client Needs Assessment Instrument (CNAI)(Texas Department of Human Resources, 1984).

The purpose of the present research was to examine the structure of the revised CNAI. As with all research involving measurement in the social and behavioral sciences, the importance of understanding properties that underlie this instrument, especially as they effect the measurement process and as they relate to eligibility of clients for services basic to their subsistence and wellbeing, cannot be understated.

Guttman's facet theory, a structural theory that facilitates identification of basic components of variables and that provides a mechanism for formulating and testing structural hypotheses, served as the theoretical basis for this investigation. Specifically, this research was intended to provide a definition of the construct *client's functional level* as related to capacity for self-care. The definition was expected to be useful for identifying structural properties of the CNAI and for relating the structure of the CNAI to other instruments that measure functional levels of behavior. The proliferation of instruments, in all areas of the social and behavioral sciences, each purporting to offer a unique perspective on measurement of some construct, calls attention to the need for basic research that empirically documents similarities and differences among instruments measuring similarly defined

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constructs. With such research, the possibility that cumulative findings might emerge from investigations of similar constructs is enhanced.

Since the inception of facet theory in the 1950's, facet analysis has been applied to research in a host of content areas. Facet analyses of the structure of intelligence measures, in particular, have accumulated, forming a large body of research which provides evidence of consistent structural properties across numerous varieties of mental tests. The large body of research on cognitive behavior--intelligence, aptitude, and achievement testing alike--is a trend undoubtedly related to the historical interest in mental tests engendered by Spearman, Thurstone and other psychometricians. Facet analyses of behavior in other realms have not been as prevalent. Therefore, a secondary purpose of this research was to replicate earlier research regarding the structure of a measure of functional levels of behavior.

PERSPECTIVE AND THEORETICAL FRAMEWORK

Facet theory, a theoretical framework owing primarily to the work of Louis Guttman (1954), draws on the principles of set theory from modern mathematics to define the content universe represented by a finite collection of variables. The suitability of facet theory as a tool for defining behavioral constructs comes from the clarity and precision it brings to the process of identifying basic components of a set of objects and of relating these components to empirical data. On the strength of these properties, Coombs (1983) notes that facet theory is the only substantive attempt to address the complex and subtle task of identifying the boundaries of a behavioral domain.

Like set theory, facet theory is a structural theory. In essence, it provides an approach to defining behavioral constructs and to testing hypotheses concerning the correspondence between behavioral definitions and empirical observations on variables representative of a construct. A principle idea underlying facet theory is that in virtually all empirical investigations in the social sciences, the particular collection of variables used--for example, a set of questionnnaire items forming a survey or a set of geometric objects used in an experiment involving visual perception--are selected, not because of an interest the investigator holds in these specific variables, but more likely because they are thought to be representative of some larger collection of variables called a behavioral universe. Defining this universe, in terms of sets that depict its various fundamental semantic characteristics is fundamental to facet analysis.

A set, as defined by Georg Cantor, the originator of set theory, is the result of collecting together certain well-determined objects of our perception or thinking into a single whole. The "single whole" is generally called a *set*, and the well-determined objects are *elements* of that set. Cantor stated that our perception of or thinking about a collection of objects should lead to the articulation of some

rule which specifies the property held in common by elements of a set, a property that uniquely characterizes the set.

For behavioral research, Guttman suggests that our perception or thinking about a collection of variables should lead to identification of semantic or perceptual properties--*facets*--that characterize basic components of the variables. The collection of all such facets can be used to formulate a definition of a construct since, presumably, each facet reflects an essential underlying component of a content universe of variables that represent the construct. To aid in communicating this definition, the facets are presented in the context of a sentence, called a *mapping sentence*. A mapping sentence has two major parts: a domain and a range. The domain consists of those facets that represent aspects of the content of a set of variables, and each variable in an investigation can be classified according these domain facets. The range represents the range of responses that might be observed in response to the variables under investigation.

Responses to variables give rise to intercorrelations among variables, and the structure of the correlations can be portrayed using any one of the several available methods of nonmetric multidimensional scaling (MDS). The domain facets of the mapping sentence serve as the basis for formulating hypotheses concerning the structure of this multidimensional space. Facet theory holds that the strength of the assocation between two variables is a function of their semantic similarity, that is, the similarity of their facet structure, and certain types of facets have been found to correspond to particular patterns among variables in an MDS solution space. Some correspondences have been observed so regularly that facets giving rise to these patterns are now thought to play predicatable, lawful roles in structuring the MDS solution space. Guttman's simplex, circumplex, and radex are among the patterns that are often found empirically, and these correspond to facets that play so-called axial, polar, and modular roles in structuring a content universe (cf. Guttman, 1954; Levy, 1981).

PROBLEMS IN MEASURING A SPECIAL POPULATION

Facet theory and MDS were thought to be especially well-suited to the problem of uncovering the structure of the CNAI. Because this measure was designed for a special population and correlations among the items were expected to reflect the effects of a restricted range, a method of analysis like MDS which is based on the rank order of the magnitude of the intercorrelations as input data was viewed as preferable to methods of analysis, like factor analysis, based on the magnitudes of correlations.

METHOD

INSTRUMENT

The CNAI is a twenty-item instrument developed and used by the DHR in allocating community care to the elderly and/or handicapped. Item content reflects concepts, concerns, and client

conditions likely to affect an individual's ability to care for self in a community or home setting. Specifically, the instrument assesses level of client-need by providing indices of a client's functional capacity to perform in four major areas: physical health, activities of daily living, mental health, and social resources. The instrument typically is administered by a caseworker who takes into consideration his or her observations as well as the client's responses in order to assign a client one of four scores for each item. Item scores range in value from 0 to 3, with 0 indicating no impairment in functioning and 3 representing total impairment.

MAPPING SENTENCE

A mapping sentence reflecting conceptual components of the CNAI items is shown in Table 1. The elements the referent facet reflect the fact that some items of the CNAI refer to levels of functioning *per se* (e.g., ability to dress oneself) while others refer to *resources* for functioning (e.g., happiness with one's life). Most of the CNAI items measure functioning *per se* since they specifically ask whether a respondent is capable of performing a particular task--grooming, using a phone, cleaning house, etc. Four items do not inquire about a client's ability to perform some task, but rather about resources for functioning--life satisfaction, depression, difficulties with sleep, and mental clarity. Though it is certainly possible to conceptualize other types of resources for self-care--financial resources or social support, for example--the only resources referenced by the CNAI have to do with mental health.

The elements of the functional modality facet represent the idea that a client's functioning *per se* and availability of resources for functioning may be evidenced in any one of three behavioral modalities or a combination of these modalities: *cognitive*, *affective*, or *instrumental*. Three of the CNAI items measure behavior exhibited in the affective modality (e.g., "...are you in good spirits?"), one item assesses cognitive behavior (mental clarity), and all other items measure instrumental behavior (e.g., meal prepration).

Three items seemed best described as a combination of functional modalities. One of these was an item inquiring about difficulties in sleeping. Although this item was intended by the CNAI authors as an indicator of psychological wellbeing, a type of affective behavior, sleep can also be thought of as instrumental behavior. This conceptualization of sleep is substantiated by the fact that some people, particularly elderly clients, report difficulties getting to sleep not because of underlying affective discomfort, but because their bodies simply need less sleep than in the past. This line of reasoning led to classifying the sleep item as a combination of affective and instrumental components.

Two other items--taking medication and using the phone--seemed best characterized as a combination of instrumental and cognitive functioning. Both activities require some dexterity, for example with opening small bottles or dialing the phone. Both also require some measure of cognitive

involvement: remembering to take the medication, carrying on a coherent conversation, etc. Hence, these two items were thought to represent a combination of instrumental and cognitive functional modalities.

Rationale similar to that involved in classifying these three items was the basis for classifying semantic components of each CNAI item according to the mapping sentence's two domain facets. The unlabeled facet following the arrow in the mapping sentence represents the range of values which could be observed in response to CNAI items. The CNAI items and their structuples, showing how each item is classified according to the mapping sentence, are shown in Table 2.

Tables 1 and 2 about here

SUBJECTS

The CNAI was administered to 4,189 clients, virtually the entire population of persons in Texas who were applying for services or receiving community care from DHR at the time the instrument was being developed. Respondents ranged in age from 20 to 99 years with a median age of 76. Three-quarters of the population was female, and one-quarter male. A 20x20 matrix of Pearson correlation coefficients, shown in Table 3, was computed for this population and the matrix was submitted to an MDS program called Smallest Space Analysis (SSA) (Lingoes, 1973).

Table 3 about here

Community care services in Texas include a variety of programs, with the vast majority of clients--approximately 90%--receiving family care or primary home care. DHR also sponsors two special services: Adult Foster Care and Supervised Living. Participants in these program comprise approximately 5-8% of DHR's clients. These programs are unique for Community Care Aged and Disabled in that services are provided, but not in the client's home or in the home of a relative. For both services, caretakers where the client resides do all the shopping, meal preparation, house cleaning, and laundry. This is in contrast to all other service programs where clients manage these tasks for themselves. Because of the unique nature of these two programs, it was of interest to investigate the structure of the CNAI on the basis of responses of recipients of these special services so as determine whether the structure of the measure was independent of a major difference in delivery of services. To this end, a 20x20 correlation matrix, shown in Table 4, based on the responses of 199 clients who were receiving services from the Adult Foster Care or Supervised Living programs was also submitted to SSA.

Table 4 about here

HYPOTHESES

The mapping sentence served as the basis for formulating hypotheses as to the structure of the CNAI. The functional modality facet was expected to play a polar role, partitioning the SSA space into wedge-shaped regions that emanate from a common origin. The rationale for this hypothesis was that behavior modalities represent unordered, qualitative--not quantitative--differences in level of functioning, and hence, it was expected that they would correspond to regions in the SSA space that were aligned in a circular, unordered configuration.

A specific hypothesis as to the role of the referent facet was not formulated, although it was expected that, on the whole, items measuring level of functioning *per se* would correlate more highly with each other than they would with items measuring resources for functioning.

RESULTS AND DISCUSSION

Two-dimensional SSA configurations adequately portrayed the structure of the correlation matrices for the entire population of DHR clients as well as for clients from the two special services. (The goodness-of-fit indices, Guttman's coefficient of alienation, had magnitudes of 0.15 and 0.22, respectively.) In both analyses, the polar structure hypothesized for the CNAI was supported. The SSA configurations, partitioned according to the elements of functional modality facet, are shown in Figures 1 and 2.

Figures 1 and 2 about here

STRUCTURE OF THE CNAI

In both configurations, distinct regions were evident for each of the behavior modalities. Moreover, the region corresponding to instrumental functioning could be subdivided further into distinct subregions corresponding to finer classifications of instrumental behavior. Subregions corresponded to activities that involve mobility (e.g., walking and getting in and out of bed), fine coordination (e.g., grooming, opening jars and containers, and trimming nails), and gross coordination (e.g., doing laundry and shopping). The observation of clearly distinguishable regions means that empirical evidence suggests that these three types of instrumental functioning are operative in the assessment of a client's functional level, that each subcategory represents finer and finer categorizations of client functioning, and that distinctions among types of behavior correspond to a qualitative, unordered set--or facet--of behavioral components. Because these types of behavior are unordered, any client may be deficient in any one of these modalities or submodalities and still be able

to function in all other modalities. The levels of functioning assessed by each of the twenty CNAI items are interrelated, as evidenced by the fact that no pair of items had a zero correlation, but the inability to function in any one type of activity does not necessarily preclude functioning in other areas.

With respect to cognitive and affective components of behavior, both SSA configurations show that the single cognitive item--mental clarity--defines a distinct region, as do the two items referring to affective resources for functioning--life satisfaction and tendency towards depression. The item inquiring about a respondent's ability to sleep, the item classified earlier as reflecting a combination of instrumental and affective behavior, falls into a region between the region for affective items and that for instrumental items. This finding empirically substantiates the idea that sleep can be experienced by clients as an indicator of physical arousal (instrumental functioning), an indicator of mood (affective functioning), or a combination of the two. Empirical support was also found in the SSA analyses for classifying two other items--taking medication and using the phone--as a combination of instrumental and cognitive components. Evidence comes from the fact that these two items occupy a region intermediate to the cognitive and instrumental regions.

Although seven distinct polar regions were found in both SSA configurations, the circular ordering of the regions varied for the two groups of DHR clients. For the population of DHR clients as a whole, the three subtypes of instrumental behavior are more similar to one another than they are to other behavior modalities, as evidenced by their contiguous arrangement. However, for clients from the Adult Foster Care and Supervised Living situations, the region for gross coordination occupies a position not in immediate proximity to the other subregions for instrumental functioning. A possible explanation for this finding is that the items in this region--cleaning house, doing laundry, preparing meals, and shopping--depict activities performed by a caretaker, not by the client. Hence, although the overall structure of the CNAI remains constant for all DHR clients, clients from the two special programs perceive the gross coordination items differently than do DHR clients as a whole, and this added component--the activity of a caretaker--manifests itself in the SSA configuration. Even though the exact nature of the component introduced by a caretaker cannot be determined without further empirical inquiry, the proximity of the gross coordination region to the item having to do with phone use and the items having to do with life satisfaction and being in good spirits suggests that a component akin to social interaction might be operative for clients whose caretaker does the laundry, shopping, etc.

Some comments about the referent facet are in order. It is reasonable to suggest that differences among items in terms of whether they refer to level of functioning *per se* or resources for functioning contribute to the observed low correlations between items from the two subgroups. In the absence of adequate levels of functioning, routine self-care activities become stressors. Stressors, in turn, produce distress symptoms, and distress eventually depletes affective resources for functioning,

leading to further decreased capacity for self-care. Thus, there is a clear connection between level of functioning and resources for functioning. However, affective resources are but *indirect* indicators of functional level; satifaction with life and propensity toward depression do not directly indicate a person's capability for self-care. Whether or not a client can prepare meals is a direct indicator of ability to care for self, whereas satisfaction with life may or may not directly reflect this capacity. Hence, it is reasonable to suggest that the low intercorrelation between the resource items and the items measuring functional level *per se* is tied to this distinction between direct and indirect indicators of functional capacity.

A final comment about the content of the CNAI: the structuples in Table 2 which categorize the semantic components of the items, as well as the SSA analyses of the instrument, show quite clearly that the eligibility of applicants and clients for assistance in DHR's programs for Community Care of Aged and Disabled is more heavily weighted by level of instrumental functioning than by any other criterion. One type of instrumental functioning does not appear to take precedence over another type, as seen by the fact that mobility, fine and gross coordination are represented by equal numbers of CNAI items. However, the empahsis on instrumental functioning, as indicative of capacity to care for self, is clear, and it far outweighs considerations of cognitive and affective functioning.

RELATIONSHIP OF CNAI TO ANOTHER MEASURE OF FUNCTIONAL BEHAVIOR

Though the CNAI was developed to meet the specific needs of the Texas DHR, the structure of the CNAI bears a striking similarity to the structure of another instrument that also measures level of functioning, but in an entirely different population. The Neonatal Behavior Assessment Scale (Brazelton, 1973) was designed to measure the level of behavioral functioning in infants. In studies (Hans, Bernstein, & Marcus, 1985; Marcus, Hans, & Jeremy, 1982) based on this scale, the behavior modality facet was found useful for classifying the content of the NBAS items, and here too it was found to play a polarizing role, partitioning an SSA space into wedge-shaped regions. Distinct regions corresponded to instrumental (motor and tone), state (a region of items similar in content to the affective region in this study), and cognitive components of functional behavioral. That is, even though the exact content of the NBAS items differed from that of the CNAI items, both instruments measure functional behavior, both have common semantic components, and in both cases these components play a polar role in determining the structure of the intercorrelations among the items.

SUMMARY

Facet theory, in conjuction with methods of nonmetric multidimensional scaling, hold promise for uncovering the structure of well-defined, interrelated variables whether those variables reflect the behavior of large heterogenous populations or smaller, special populations. Empirical support was found to suggest that semantic components of the CNAI items having to do with modality of functional behavior play a polar role, partitioning an SSA space into several distinct wedge-shaped regions. The

meaning of this structure is that the CNAI items represent functional behaviors that differ in type rather than in degree, and because these behaviors are unordered, the lack of functional ability in any of these areas does not necessarily indicate inability to function in other areas. Moreover, measurement of each of these types of behavior is important for determining a client's level of functioning as related to capacity for self care. The finding of slight differences between the structure of the CNAI for DHR clients as a whole and participants in two special programs points to the sensitivity of the facet approach for identifying components of respondents' perceptions of or experience of functional capacity. Finally, the similarity between the structure of the CNAI and Brazelton's scale suggests the potential of facet theory for contributing to cumulative findings across behavioral content areas and across population differences, in this case with respect to substantial differences in age of respondents.

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TABLE 1

A MAPPING SENTENCE FOR DEFINING LEVEL OF FUNCTIONING

AS RELATED TO CAPACITY FOR SELF-CARE

The caseworker's assessment of applicant/client (x)'s level of

{ REFERENT: resources for / *per se* } { MODALITY: cognitive / affective / instrumental } functioning in common daily activities

is ordered from > { good / to / bad } level of functioning for self-care in a

community or home setting.

TABLE 2
CLIENT NEEDS ASSESSMENT INSTRUMENT

ITEM			STRUCTUPLE
DRESS	1.	Can you dress yourself?	per se, inst'l (fine coord)
GROOM	2.	Can you groom yourself?	per se, inst'l (fine coord)
BATHE	3.	Do you have any difficulty taking a bath or shower?	per se, inst'l (fine coord)
TRIM NAILS	4.	Can you trim your own fingernails and toenails?	per se, inst'l (fine coord)
MEAL PREP	5.	Can you prepare your own meals?	per se, inst'l (gross coord)
DO LAUNDRY	6.	Can you do your own laundry?	per se, inst'l (gross coord)
SHOP	7.	Can you do your own shopping?	per se, inst'l (gross coord)
CLEAN HOUSE	8.	Can you do general housecleaning?	per se, inst'l (gross coord)
OPEN JARS	9.	Can you open jars, cans, and bottles?	per se, inst'l (fine coord)
WALK	10.	Can you walk?	per se, inst'l (mobility)
GET IN BED	11.	Can you get in and out of bed or chair?	per se, inst'l (mobility)
GET TO TOILET	12.	Do you have any difficulty getting to and using the bathroom?	per se, inst'l (mobility)
HYGIENE IN TOILETING	13.	Do you have any difficulty with personal cleanliness in toileting?	per se, inst'l (fine coord)
BALANCE	14.	Do you have any difficulty maintaining your balance?	per se, inst'l (mobility)
USE PHONE	15.	Can you use the telephone?	per se, cognitive/inst'l
TAKE MEDS	16.	Can you take your own medicines?	per se, cognitive/inst'l
DEPRESSION	17.	In general, would you say that...you are in very good spirits, good spirits, poor spirits, or very poor spirits?	resources, affective
LIFE SATISFY.	18.	In general, are you happy with your life as it is now?	resources, affective
SLEEP	19.	Do you have difficulty sleeping that causes problems for you or your family?	resources, affect/inst'l
MENTAL CLAR.	20.	(Caseworker's judgement of client's overall mental clarity/cognitive functions.)	resources, cognitive

TABLE 3

PEARSON PRODUCT MOMENT CORRELATION MATRIX
FOR
CLIENT NEEDS ASSESSMENT INSTRUMENT
(N=4,189)

ITEM		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DRESS	1.	-																			
GROOM	2.	.70	-																		
BATHE	3.	.66	.60	-																	
TRIM NAILS	4.	.46	.43	.49	-																
MEAL PREP	5.	.46	.43	.43	.34	-															
DO LAUNDRY	6.	.38	.34	.40	.37	.49	-														
SHOP	7.	.38	.35	.42	.34	.45	.53	-													
CLEAN HOUSE	8.	.41	.39	.47	.37	.51	.55	.50	-												
OPEN JARS	9.	.49	.45	.46	.47	.36	.34	.34	.41	-											
WALK	10.	.54	.43	.52	.35	.32	.31	.34	.40	.39	-										
GET IN BED	11.	.62	.51	.53	.35	.35	.30	.34	.37	.44	.68	-									
GET TO TOILET	12.	.64	.52	.57	.36	.38	.33	.36	.39	.44	.62	.72	-								
HYGIENE	13.	.62	.58	.51	.36	.39	.29	.32	.34	.44	.50	.62	.73	-							
BALANCE	14.	.43	.34	.43	.26	.22	.24	.23	.31	.33	.59	.56	.53	.44	-						
USE PHONE	15.	.36	.39	.24	.21	.35	.22	.23	.19	.25	.18	.27	.31	.43	.15	-					
TAKE MEDS	16.	.47	.47	.38	.29	.46	.27	.30	.27	.32	.23	.36	.41	.53	.23	.51	-				
DEPRESSION	17.	.11	.10	.11	.04	.03	.04	.03	.07	.07	.05	.10	.13	.12	.13	.08	.11	-			
LIFE SATISFY.	18.	.18	.14	.15	.06	.07	.08	.06	.10	.11	.13	.18	.20	.20	.18	.10	.13	.61	-		
SLEEP	19.	.06	.06	.06	.01	-.06	.01	.00	.06	.07	.07	.09	.09	.07	.13	-.03	.02	.33	.33	-	
MENTAL CLAR.	20.	.21	.26	.13	.07	.22	.10	.11	.09	.11	.02	.14	.19	.33	.08	.42	.45	.23	.24	.10	-

TABLE 4

PEARSON PRODUCT MOMENT CORRELATION MATRIX
FOR
CLIENT NEEDS ASSESSMENT INSTRUMENT
(N=199)

ITEM		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DRESS	1.	-																			
GROOM	2.	.64	-																		
BATHE	3.	.47	.50	-																	
TRIM NAILS	4.	.36	.30	.45	-																
MEAL PREP	5.	.03	-.02	.00	.08	-															
LAUNDRY	6.	.09	.04	.16	.10	.60	-														
SHOP	7.	.09	.04	.09	.14	.51	.57	-													
CLEAN HOUSE	8.	.25	.19	.36	.22	.43	.49	.48	-												
OPEN JARS	9.	.43	.25	.33	.40	.10	.21	.22	.24	-											
WALK	10.	.44	.27	.50	.35	-.10	.06	.02	.26	.38	-										
GET IN BED	11.	.47	.33	.45	.27	-.05	.09	.04	.12	.39	.55	-									
GET TO TOILET	12.	.60	.45	.41	.29	-.02	.10	-.01	.19	.37	.49	.57	-								
HYGIENE	13.	.54	.44	.35	.27	-.01	.10	.02	.09	.36	.34	.40	.68	-							
BALANCE	14.	.35	.19	.38	.24	-.06	.14	.05	.21	.45	.62	.44	.32	.32	-						
USE PHONE	15.	.25	.28	.25	.26	.14	.24	.17	.18	.26	.07	.13	.26	.28	.15	-					
TAKE MEDS	16.	.07	.19	.01	.05	.08	.13	.17	.14	.04	-.12	-.06	.04	.02	-.03	.22	-				
DEPRESSION	17.	.13	.01	.09	.05	-.13	-.11	-.05	-.05	.13	.08	.11	.06	.19	.25	-.06	.00	-			
LIFE SATISFY.	18.	.26	.17	.25	.10	-.12	-.07	.00	.10	.27	.17	.20	.15	.26	.31	.02	.02	.69	-		
SLEEP	19.	.10	.12	.05	-.08	-.12	-.11	-.10	-.06	.09	.04	.11	.06	.02	.07	-.11	.00	.24	.29	-	
MENTAL CLAR.	20.	-.01	.13	-.05	-.11	.07	.09	.13	.05	-.17	.38	-.21	-.05	-.07	-.20	.28	.33	-.05	-.01	-.06	-

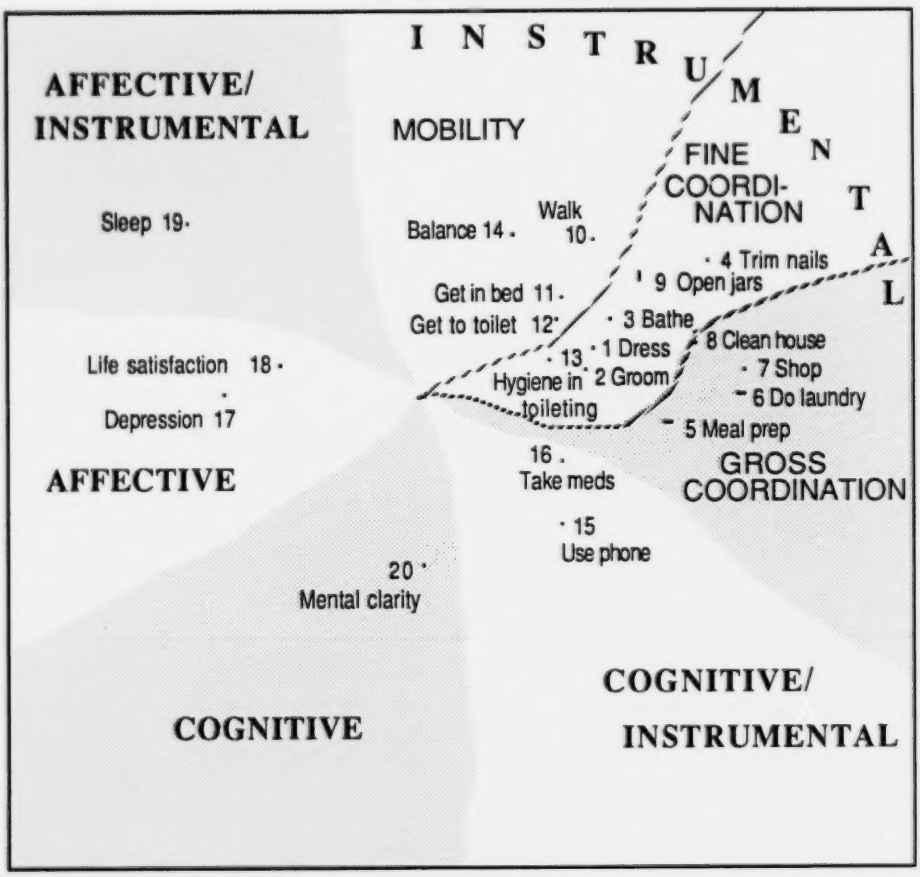

Figure 1. Smallest space analysis and regional partitioning of Client Needs Assessment Instrument for 4,189 Texas residents in community and home care settings.

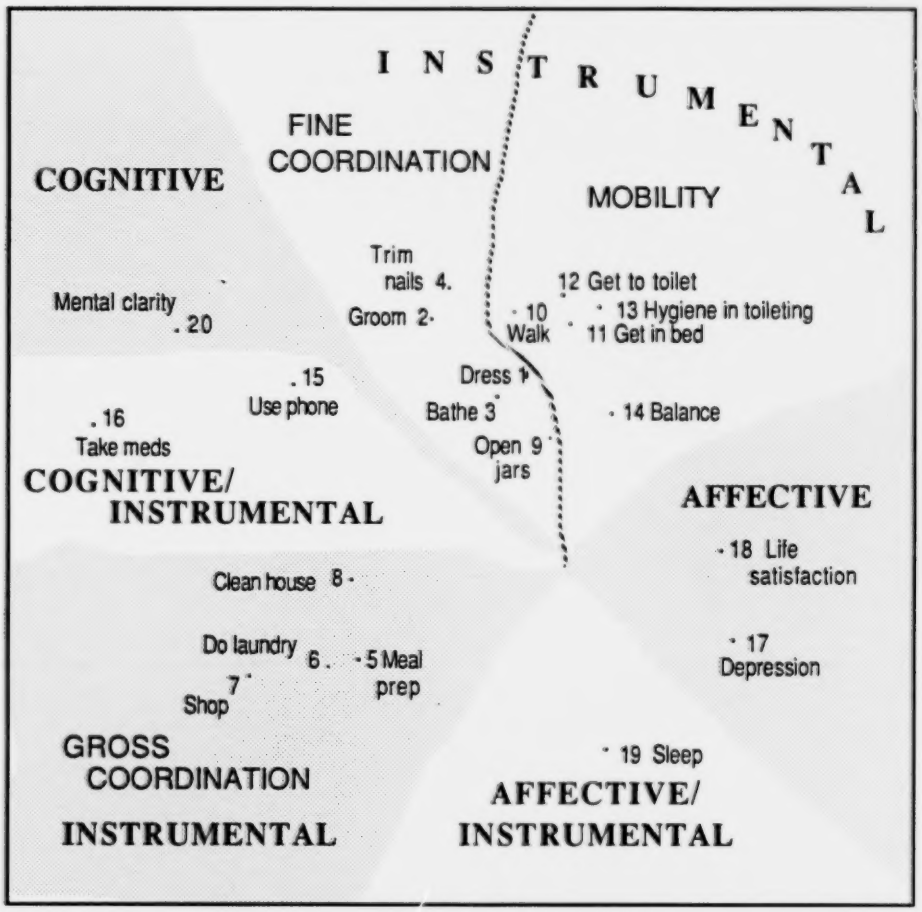

Figure 2. Smallest space analysis and regional partitioning of Client Needs Assessment Instrument for 199 Texas residents in Adult Foster Care and Supervised Living.